Abstract

Disclosed is methods of manufacturing optical elements such as optical glass lenses and to methods of manufacturing optical glass elements in which a heat softened optical glass material is press molded in a pressing mold with high precision. Optical pick up units is also disclosed and it comprises an object lens manufactured by the method. In the method, at least one of an upper mold and a lower mold having a shape such that when a glass material is in contact with the upper mold and the lower mold, a molding surface of at least one of the upper mold or the lower mold forms a closed space with a surface of the glass material. The method comprises the steps of supplying a glass material, at a temperature of less than a temperature at which the glass material exhibits a viscosity of 10^{11} poises, between the upper mold and the lower mold; heating the supplied glass material by thermal conduction by means of contact with the upper mold or lower mold on the side on which the space is formed; and moving at least one of the upper mold and the lower mold at an average moving rate of less than or equal to 10 mm/min at least for a distance h micrometers after the glass material becomes in contact with the upper mold and the lower mold, when a temperature of the pressing mold is at a predetermined temperature T2 within a range in which the glass material exhibits a viscosity of from $10^{7.4}$ to $10^{10.5}$ poises, wherein a maximum height of the space in the direction of the moving of the movable mold is denoted as h micrometers.